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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,370	12/08/2003	Wolfgang Drahm	DRAH3002/FJD	8139

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EXAMINER	
MACK, COREY D	

ART UNIT	PAPER NUMBER
2855	

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/729,370	DRAHM ET AL.	
	Examiner	Art Unit	
	Corey D. Mack	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/22/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on December 6, 2002. It is noted, however, that applicant has not filed a certified copy of the 102 57 322.0 application as required by 35 U.S.C. 119(b).

Claim Objections

2. Claims 24 and 32 are objected to because of the following informalities:

Claim 24 recites "for sensing a second *second* temperature" in lines 3-4. This appears to be in error.

Claim 32 recites the limitation "said filter stage" in line 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 22-26 and 34-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Gomi, et al. (US 5,796,012).

A. With respect to Claim 22, Gomi discloses a process meter comprising: a transducer including a sensor arrangement 6, 7 providing measurement signals, the sensor arrangement having: at least a first sensor 6 providing at least a first measurement signal in response to the physical process variable being measured, particularly to changes in the process variable, and at

least a first temperature sensor 9a mounted in the transducer for locally sensing a first temperature in the transducer, and by means of the at least one temperature sensor, at least a first temperature measurement signal representing the first temperature in the transducer; and, meter electronics 20, 30, 40, 50 (60) which, using at least the first measurement signal and a first correction value for the at least first measurement signal, derive at least one measured value 51 currently representing the physical variable, wherein: during operation, the meter electronics determine the first correction value from a temporal variation of the at least first temperature measurement signal by also taking into account temperature values sensed in the past by means of the first temperature sensor (column 6, line 15 – column 7, line 65).

B. With respect to Claim 23, Gomi discloses that during operation, the meter electronics respond to a change in the first temperature measurement signal, corresponding to a change in the first temperature, with a change in the first correction value after a time delay (column 6, line 15 – column 7, line 65).

C. With respect to Claim 24, Gomi discloses that the sensor arrangement further has at least a second temperature sensor 9b mounted in the transducer, particularly in spaced relationship from the first temperature sensor 9a, for locally sensing a second temperature in the transducer, and wherein: by means of the second temperature sensor, the sensor arrangement provides at least a second temperature measurement signal, representing the second temperature (column 8, lines 21-28).

D. With respect to Claim 25, Gomi discloses that the meter electronics 60 determine the first correction value Ct by also using the second temperature measurement signal (column 7, line 66 – column 10, line 63).

E. With respect to Claim 26, Gomi discloses that the meter electronics 60 determine a second correction value Cdt from a temporal variation of at least the second temperature measurement signal; and the meter electronics derive the measured value 51 by also using the second correction value (column 7, line 66 – column 10, line 63).

F. With respect to Claim 34, Gomi discloses that the transducer comprises at least one flow tube 1 for conducting the flowing medium Q.

G. With respect to Claim 35, Gomi discloses that at least one of the two temperature sensors 9a is mounted on the flow tube 1 or in the vicinity thereof.

H. With respect to Claim 36, Gomi discloses that the transducer comprises a transducer case 2, 3, 4 enclosing the flow tube 1.

I. With respect to Claim 37, Gomi discloses that at least one of the temperature sensors 9b is fixed to the transducer case or positioned at least in the vicinity thereof.

J. With respect to Claim 38, Gomi discloses that the transducer further comprises an electrodynamic electromagnetic vibration exciter 5 electrically connected to the meter electronics 60 for driving the flow tube 1; and the meter electronics 60 provide at least one excitation signal for controlling the vibration exciter, so that in operation, the flow tube is vibrated at least intermittently (column 3, line 57 – column 4, line 20; column 8, lines 1-62).

K. With respect to Claim 39, Gomi discloses that the first sensor 6, 7 responds to vibrations of the flow tube 1, particularly to inlet-side or outlet-side vibrations; and the measurement signal provided by the first sensor represents mechanical vibrations of the vibrating flow tube which are influenced by the process medium Q (column 7, line 66 – column 8, line 62).

L. With respect to Claim 40, Gomi discloses that the transducer comprises a supporting element 3, 4 fixed to the flow tube 1, particularly a supporting element mounted in the transducer case so as to be capable of vibratory motion, for supporting the vibration exciter 5 and at least the first sensor 6, 7.

M. With respect to Claim 41, Gomi discloses that the first temperature sensor 9a is fixed to the supporting element 3 or at least in the vicinity thereof (See Fig. 5).

N. With respect to Claim 42, Gomi discloses that the sensor arrangement comprises at least a second sensor 9b for providing at least a second measurement signal in response to the physical process variable; and the meter electronics 60 derive the measured value by also using the second measurement signal (column 7, line 66 – column 10, line 63).

I. With respect to Claim 43, Gomi discloses that the meter is a mass flow rate meter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 27, 28, 29, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gomi, et al. (US 5,796,012) in view of Henry, et al. (US 6,311,136).

A. With respect to Claim 27, Gomi discloses the claimed invention, except he does not explicitly disclose a filter stage. Henry discloses a mass flow meter having meter electronics including a filter stage 900 for deriving correction values z[k-1], z[k], z[k+1] with first and second temperature measurement signals 535, 535 being applied to a first and second signal

input of the filter stage in order to help eliminate instrument error, such as those associated with curve fitting and zero offset (column 12, lines 1-47; column 15, line 22 – column 16, line 42). Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to include in Gomi a filter stage, as shown in Henry, in order to help eliminate instrument error.

B. With respect to Claims 28 and 32, Henry discloses that the filter stage comprises a first and second A/D converters 555, 555 for converting the first and second temperature measurement signal 535, 535 to a first digital signal.

C. With respect to Claims 29 and 33, Henry teaches the possible use of digital signal filters for the digital signals in order to improve measurement performance in non-ideal situations (column 2, lines 17-32).

7. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gomi, et al. (US 5,796,012) in view of Henry, et al. (US 6,311,136) and further in view of Maginnis (US 6,505,135).

A. With respect to Claims 30 and 31, Gomi, as modified by Henry, discloses the claimed invention, except they do not explicitly disclose a recursive or nonrecursive filters. Maginnis discloses a control system for a mass flow meter comprising a recursive filter in order to smooth the amplitude of the temperature sensor (column 11, line 61 – column 12, line 23; column 17, lines 11-13). The cited references do not disclose the use of a nonrecursive filter. However, nonrecursive filters are well-known and within the knowledge of those of ordinary skill in the art. Such a filter would have been recognized as interchangeably useable with the recursive filter. (See MPEP § 2144.03). Therefore, at the time the invention was made, it would have

ordinary skill in the art to include in Gomi, as modified by Henry, a recursive or nonrecursive filter to smooth the amplitude of the sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey D. Mack whose telephone number is (571) 272-2181. The examiner can normally be reached on M-F, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CDM

Corey D. Mack, Esq.
Patent Examiner
Art Unit 2855

May 12, 2005

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